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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/720,630	11/24/2003	Dennis R. Wiese	589800159COB	4257
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HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 828 BLOOMFIELD HILLS, MI 48303			HINZE, LEO T	
			ART UNIT	PAPER NUMBER
			2854	

DATE MAILED: 03/11/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/720,630

Applicant(s)

WIESE, DENNIS R.

Examiner

Leo T. Hinze

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

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DETAILED ACTION

Claim Objections

1. Claims 11-13 are objected to because of the following informalities: claim 11 recites the limitation "the ink train" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 14-19 are rejected under 35 U.S.C. 102(b) as being anticipate by Rebel et al., US 4,480,548.

Regarding claim 14, Rebel teaches a printing apparatus for web printing ("printing presses", col. 1, line 8) or sheetfed printing, comprising: at least one printing unit having adjacent ink rollers ("inking mechanism", col. 3, line 7), said ink rollers having terminal non-print areas ("roller side zones", "small-format", col. 1, lines 38-40), and a solvent delivery system (2, 8, 9, 14, Fig. 1A) for delivering a tack-reducing solvent at an adjustable rate ("delivering a variable supply... of solvent... to the rollers", col. 4, lines 22-23) to the non-print

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areas (Fig. 1A) of at least one ink roller such that the incidence of web breakage or sheet jamming is reduced and such that print at the edges of print areas is not washed out.

Further regarding claim 14, applicant should note that while features of an apparatus may be recited either structurally or functionally, claims directed to an apparatus must be distinguished from the prior art in terms of structure rather than function. See MPEP § 2114. The examiner considers the structure of Rebel to anticipate the claimed structure of the instant application, because Rebel teaches all of the elements of the claimed apparatus.

Regarding claim 15, Rebel also teaches wherein said solvent delivery system comprises a solvent line (14, Fig. 1A) for moving the solvent to the non-print areas of the at least one ink roller and apertures (2, 8, Fig. 1A) in the solvent line to deliver the solvent to said non-print areas.

Regarding claim 16, Rebel also teaches wherein the solvent delivery system further comprises a reservoir for containing the solvent, from which reservoir the solvent line receives the solvent. While Rebel specifically teaches a reservoir (10, Fig. 2) for the pressureless embodiment of the invention, a fluid reservoir is inherent in the non-pressureless embodiment of Fig. 1A, because the liquid must come from somewhere.

Regarding claim 17, Rebel also teaches wherein the solvent delivery system comprises a pump ("non-pressureless construction", col. 3, line 39) for pumping the solvent from the reservoir.

Regarding claim 18, Rebel also teaches wherein the solvent delivery system further comprises a controller (9, Fig. 1A) for adjusting the rate of delivery of solvent to the non-print

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area.

Regarding claim 19, Rebel also teaches wherein the solvent line has at least two spaced apertures (2, Fig. 1A) that can be opened and closed each end of said at least one ink roller.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-6 and 8-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoff, US 5,553,546 in view of De Marchi et al, US 2,972,298 and Rebel et al., US 4,480,548.

Hoff teaches:

- a web (1, Fig. 1) printing press (40, Fig. 1) that prints on webs which are narrower than the full width of the blanket (col. 3, lines 44-46);
- an ink roll (52, Fig. 2) that provides ink from an ink source. Since Hoff is not specific as to the type of ink source, it is left to one having ordinary skill in the art to select the most appropriate ink source;
- that build up of ink in the non-print areas of the blanket and other rollers leads to several problems, including smudging and friction at the edge of the web, which can lead to poor print quality and web breaks (col. 1, lines 50-54);

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- a method of printing the web with a printing unit having rotating ink rollers, by applying ink to a first ink roller of an upper ink train of ink rollers, the ink being transferred to the print areas of successive adjacent ink rollers and finally printed in an image on the web or sheet substrate (claim 1).

Hoff does not teach:

- a method of reducing the incidence of web breakage in web printing or reducing the incidence of sheet jamming in sheetfed printing, comprising steps of: (a) printing the web or sheets with a printing unit having adjacent, rotating ink rollers, said ink rollers having a central print area and terminal non-print areas, by applying ink to a first ink roller of an upper ink train of ink rollers, the ink being transferred to the print areas and non-print areas of successive adjacent ink rollers and finally printed in an image on the web or sheet substrate, (b) delivering a sufficient amount of a tack-reducing solvent at a pre-determined rate to the non-print areas of a member selected from the group consisting of a plate cylinder of the upper ink train, a blanket cylinder of the upper ink train, or an ink roller of the upper ink train, so that the tack-reducing solvent is transferred to non-print areas of successive adjacent ink rollers and cylinders reduce the incidence of web breakage or sheet jamming (claim 1);
- wherein step (b) is carried out by delivering the tack-reducing solvent to a second ink roller of the upper ink train (claim 2);
- wherein the pre-determined rate of step (b) is adjusted according to the printing rate (claim 3);

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- wherein in step (b) from 1 to about 5 drops per minute of the tack-reducing solvent is delivered (claim 4)
- comprising the further steps of: (c) replacing the paper substrate of step (a) with a second paper substrate having a narrower width; (d) increasing amount of the tack-reducing solvent delivered in the non-print areas (claim 5);
- wherein a solvent line carries the tack-reducing solvent from a reservoir of the tack-reducing solvent and the tack-reducing solvent passes through an aperture in the solvent line onto the non-print areas (claim 6);
- (c) replacing the paper substrate of step (a) with a second paper substrate having a narrower width; (d) closing the aperture in the solvent line and opening a second aperture in the solvent line for solvent to pass onto the non-print areas closer to the edges of the second paper substrate (claim 7);
- wherein the tack-reducing solvent is delivered at a rate that does not wash out print at edges of the printing and at a rate that prevents ink build up in non-print areas (claim 8);
- wherein the printing is carried out by a method selected from the group consisting of lithographic printing, flexographic printing, letterpress printing, rotogravure printing, and sheetfed printing (claim 9);
- wherein the paper substrate is a super calendered paper (claim 10);
- a method of reducing incidence of web breakage when printing super calendered paper in a lithographic printing process, comprising a step of delivering to non-print areas

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of the ink train a solvent that is a tack-reducing solvent for the printing ink, wherein the solvent is delivered at a pre-determined rate sufficient to reduce incidence of web breakage (claim 11)

- wherein the rate of solvent delivery is dropwise (claim 12);
- wherein from one to five drops of solvent are delivered each minute (claim 13).

De Marchi et al. teach a lithographic printing machine used for printing webs (col. 1, lines 21-22), including:

- printing the web (12, Fig. 1) with a printing unit having adjacent, rotating ink rollers (14, 15, 16, 17, 18, Fig. 1), said ink rollers having a central print area, by applying ink to a first ink roller of an upper ink train of ink rollers, the ink being transferred to the print areas of successive adjacent ink rollers and finally printed in an image on the web (claim 1);
- wherein the paper substrate is a super calendered paper (col. 1, line 36) (claims 10 and 11);
- that when solvent evaporates from ink, the ink becomes tacky, which can lead to web breakage due to excessive ink tack (col. 2, lines 5-10).

Rebel et al. teach a solvent delivery system, including:

- an apparatus for delivering solvent to rollers in a printing machine (Fig. 1A);
- delivering the solvent to areas of the roller not covered by the substrate during printing to prevent drying of the coating (varnish) being used (col. 1, lines 28-30);
- providing a steplessly variable supply of solvent to the rollers (col. 1, lines 33-35,

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col. 4, lines 22-23);

- wherein the solvent delivery system is pivotable (col. 2, lines 59-61) to supply liquid to more than one roller (Fig. 1B);
- a control facility (9, Fig. 1A) that maintains a balance between evaporation of the solvent and the rate of delivery (col. 1, lines 60-61);
- a reservoir (10, Fig. 2) for holding the solvent, and a solvent line (14, Fig. 1A) for delivering the solvent from the reservoir to the apertures (2, Fig. 1A) (claim 6).

It has been held that obtaining optimum ranges or values through the course of routine experimentation is not an inventive step. See MPEP 2144.05.

Regarding claims 1, 2, 6, and 11, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Hoff to use the inking system of De Marchi, including the adjacent ink rollers which transfer ink to successive adjacent ink rollers, as the “ink delivery system”, and to print on super calendered paper, because De Marchi teaches that such an ink delivery system is well known in the art, and one having ordinary skill in the art would recognize that such an ink distribution system would be advantageous for obtaining high quality printing.

Further regarding claims 1, 2, 6, and 11, it would have been obvious to one having ordinary skill in the art at the time the invention was made to additionally modify Hoff to supplement its cleaning method by using the liquid delivery system of Rebel et al. (including the reservoir, supply line, pivotable delivery system, and individually operable apertures) to deliver a sufficient amount of tack-reducing solvent at a predetermined rate to the non-print areas of an

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ink roller to reduce the incidence of web breakage, because DeMarchi teaches that inks become tacky and lead to web breakage when ink solvents evaporate, and Rebel teaches that its apparatus and method are advantageous for preventing coating material in the non-print zones of rollers from losing solvent to evaporation.

Regarding claims 3 and 5, it would have been obvious to one having ordinary skill in the art at the time the invention was made to additionally modify Hoff to adjust the rate of delivery according to the printing rate, and to increase the rate of delivery with a narrower web, because Rebel teaches that it is advantageous to obtain a balance between evaporation and dampening, and one having ordinary skill in the art would recognize that as the printing rate varies, so would the amount of ink used, and therefore, the amount of solvent which evaporates.

Regarding claims 4, 8, 12, and 13, it would have been obvious to one having ordinary skill in the art at the time the invention was made to additionally modify Hoff to adjust the rate of delivery as claimed, because Rebel teaches that it is advantageous to achieve an optimum balance between evaporation and dampening, and one having ordinary skill in the art could easily obtain the rates through the course of routine experimentation.

Regarding claims 9 and 10, the combination of Huff, De Marchi, and Rebel teaches all that is claimed as discussed above.

6. Claims 14-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dufour et al., US 5,603,263 in view of Rebel et al.

Dufour teaches a printing apparatus, comprising: at least one printing unit having adjacent ink rollers, said ink rollers having terminal non-print areas (claim 14).

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Dufour does not teach:

- a solvent delivery system for delivering a tack-reducing solvent to the non-print areas of at least one ink roller such that the incidence of web breakage or sheet jamming is reduced and such that the print at the edges of print areas is not washed out (claim 14);
- wherein said solvent delivery system comprises a solvent line for moving the solvent to the non-print areas of the at least one ink roller and apertures in the solvent line to deliver the solvent to said non-print areas (claim 15);
- wherein the solvent delivery system further comprises a reservoir for containing the solvent from which reservoir the solvent line receives the solvent (claim 16);
- wherein the solvent delivery system comprises a pump for pumping the solvent from the reservoir (claim 17);
- wherein the solvent delivery system further comprises a controller for adjusting the rate of delivery of solvent to the non-print area (claim 18);
- wherein the solvent line has at least two spaced apertures that can be opened and closed each end of said at least one ink roller (claim 19).

Rebel teaches:

- a solvent delivery system for delivering a solvent to the non-print areas of at least one roller at a rate (e.g. col. 2, lines 52-54) sufficient to replenish solvent lost to evaporation, and thereby prevent the material from drying and subsequently becoming sticky or tacky, and eventually hardening (claim 14);
- wherein said solvent delivery system comprises a solvent line (14, Fig. 1A) for

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moving the solvent to the non-print areas of the at least one roller and apertures (2, Fig. 1A) in the solvent line to deliver the solvent to said non-print areas (claim 15);

- wherein the solvent delivery system further comprises a reservoir (10, Fig. 2) for containing the solvent from which reservoir the solvent line receives the solvent (claim 16);
- wherein the solvent delivery system comprises a pump for pumping the solvent from the reservoir (“non-pressureless construction”, col. 3, line 38) (claim 17);
- wherein the solvent delivery system further comprises a controller (9, Fig. 1A) for adjusting the rate of delivery of solvent to the non-print area (claim 18);
- wherein the solvent line has at least two spaced apertures (2, Fig. 1A) that can be opened and closed (e.g. col. 2, lines 9-10) each end of said at least one roller (claim 19);
- that scraping roller side zones does not keep them 100% clear (col. 1, lines 40-42).

Regarding claim 14, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Dufour to supplement the scraping system with a solvent delivery system for delivering a tack-reducing solvent to the non-print areas of at least one ink roller, because Rebel teaches that scraping the roller side zones is not 100% effective at removing material, and that the liquid delivery system helps prevent material from drying in the side zones.

Regarding claims 15-19, the combination of Dufour and Rebel teaches all that is claimed as discussed above.

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Allowable Subject Matter

7. Claim 7 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter:

Regarding claim 7, the prior art of record does not teach or render obvious a printing method having all of the steps as claimed, including closing an aperture in the solvent line and opening a second aperture in the solvent line for solvent to pass onto the non-print areas close to the edges of the second paper substrate.

As allowable subject matter has been indicated, applicant's reply must either comply with all formal requirements or specifically traverse each requirement not complied with. See 37 CFR 1.111(b) and MPEP § 707.07(a).

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leo T. Hinze whose telephone number is (571) 272-2167. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Hirshfeld can be reached on (571) 272-2168. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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